The Future of Work

Video: The Future of Work: Will Our Children Be Prepared?
https://youtu.be/59ld3UZTUFQO
Workforce of the future...

-“Never again is someone going to pay you to give them answers they can look up online. They’ll only pay you to solve problems that don’t yet have answers.”

-Seth Godin
STEM Education Stats

1. **STEM jobs are projected to grow 13%**.
   Between 2017 and 2027, the number of STEM jobs will grow 13 percent, compared to 9 percent for non-STEM jobs—with positions in computing, engineering, and advanced manufacturing leading the way. (Via Change the Equation)

   Overall, since 1990, employment in STEM occupations has grown 79%—increasing from 9.7 million to 17.3 million. (Via Pew Research Center)

2. **The average median hourly wage for STEM jobs is $38.85.**
   Compared to the median earning for all other types of jobs in the US - $19.30 - STEM-related jobs pay exceptionally well. (Via Change the Equation)
STEM Education Stats

3. Out of 100 STEM occupations, 93% of them had wages above the national average. The national average for STEM job annual salaries is $87,570, where the national average for non-STEM occupations sits at roughly half—$45,700. (Via the Bureau of Labor Statistics)

4. US universities are expected to produce only 29% of the required number of grads. That is, to fill the 1.4 million computer specialist job openings. (Projected by the US Department of Labor)

5. 74% of middle school girls express an interest in engineering, science, and math... But only 0.3% choose computer science as a major when they get to college. (Via girlswhocode.org)
STEM Education Stats

6. Girls’ interest in STEM peaks in middle school, but drops off in high school. A Microsoft survey conducted in Europe found that girls gain interest in STEM at age 11, but then lose that interest at age 15 (Via Microsoft). The combination of social factors and lack of access can be understood as culprits.

7. “African-American and Latino workers also now represent 29 percent of the general workforce population (up from about 24 percent in 2001)... But just 16 percent of the advanced manufacturing workforce, 15 percent of the computing workforce and 12 percent of the engineering workforce.” (US News, 2015)

8. Minority women participation in STEM at the collegiate level: Engineering, 3.1%; Physical Sciences, 6.5%, Mathematics, 5.4%, Computer Science, 4.8%. (Via the National Girls Collaborative Project)
The Future of Work

• A report from the World Economic Forum (WEF) about the future of work informs us, “by one popular estimate, 65% of children entering primary school today will ultimately end up working in completely new job types that don’t yet exist.”

• “We are at the beginning of a revolution that is fundamentally changing the way we live, work and relate to one another.”
  – K. Schwab-World Economic Forum
In the new world, it is not the **big fish** which eats the **small fish**, it's the **fast fish** which eats the **slow fish**.

Klaus Schwab  
Founder and Executive Chairman  
World Economic Forum
STEM in the Oak Ridge Schools

STUDENTS, TEACHERS, ENERGIZING MINDS
Our History

• Manhattan Project
• U.S. Atomic Energy Commission
• U.S. Department of Energy
• Oak Ridge National Laboratory
• Y-12 National Security Complex
• Office of Science and Technical Information
• Oak Ridge Associated Universities
• Oak Ridge Institute for Science and Education
Seven Keys
To College and Career Readiness
All students participate in AP coursework, dual enrollment, industry certification, or military preparation program by graduation.
## STEM-Based Learning

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<th>Stakeholder Involvement</th>
<th>The 4 Cs for College &amp; Career Readiness</th>
<th>Innovation &amp; Real World Problems</th>
<th>Tools, Resources, &amp; Ongoing Support</th>
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<tr>
<td>Create and sustain a STEM-based learning community culture.</td>
<td>Include collaboration, communication, creativity, and critical thinking as essential elements of college and career readiness.</td>
<td>Emphasize meaningful opportunities to analyze and foster real-world problem solving.</td>
<td>Support each other through professional development, sharing ideas, and opening classrooms.</td>
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Problem/Project-Based Learning

PBL
A little STEM project today in 7th Grade English. So many discoveries that relate to our Titanic novel study! @RMSortn @MichelleS64 @KirkRenegar

STEM learning in ELA! Titanic learning! Design a life jacket to keep a can of soup afloat for 90 seconds. @PhillySixthTchr @RMSortn
Work Ethic Distinction for Oak Ridge Schools

1. Attendance Standard
2. Absence Standard
3. Tardiness Standard
4. Discipline Standard
5. Overall Grade Point Average Standard
6. Drug Free Standard
7. CTE Coursework Standard
8. CTE Competition Standard
9. TN Promise Standard
10. Dual Enrollment/Credit Standard
11. Industry Certification Standard
12. Enrollment in Post-Secondary Standard
13. Career Readiness Standard

Did you know that DENSO Manufacturing in Maryville just requested a full list of our seniors who complete the Work Ethic Distinction? With this in hand, they will guarantee an interview!

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@ORHSCounseling
Space ACT Agreement with NASA

• NONREIMBURSABLE SPACE ACT AGREEMENT
  • Between
  • The National Aeronautics And Space Administration
    • George C. Marshall Space Flight Center
    • And
  • Oak Ridge Board Of Education
    • On behalf of
  • Robertsville Middle School
    • NASA-unique Science, Technology, Engineering, and Mathematics (STEM) engagement activities for students
March 2, 2018

NASA Announces Ninth Round of Candidates for CubeSat Space Missions
NASA has selected the following research satellites from seven states and Puerto Rico to fly as auxiliary payloads aboard space missions planned to launch in 2019, 2020, and 2021.

- Cornell University, Ithaca, New York
- AMSAT, the Radio Amateur Satellite Corporation, Kensington, Maryland
- Embry-Riddle Aeronautical University, Prescott, Arizona
- Inter American University of Puerto Rico, Bayamon
- Oak Ridge Public Schools, Oak Ridge, Tennessee – RamSat
- University of California, Davis
- University of Cincinnati, Ohio
- University High School, Irvine, California
- University of Kansas, Lawrence
- The Aerospace Corporation, Los Angeles
- Massachusetts Institute of Technology, Cambridge
- NASA’s Ames Research Center, Moffett Field, California
- NASA’s Marshall Space Flight Center, Huntsville, Alabama
- Ohio University, Athens
- University of California, Los Angeles
- University of Colorado, Boulder
- University of Michigan, Ann Arbor
After Four Years of STEM Innovation
STEM Certified: 1st in Tennessee

Congrats!

STEM Certified: 2nd in the World!

Congrats!

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TENNESSEE

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